

IN THE CLAIMS:

The text of all pending claims are set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (previously amended), (cancelled), (withdrawn), (new), (previously added), (reinstated - formerly claim #), (previously reinstated), (re-presented - formerly dependent claim #) or, (previously re-presented).

Please AMEND the claims in accordance with the following:

E1 1. (CURRENTLY AMENDED) A graphic editing apparatus, comprising:
a display unit displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and
an interactive graphical editing unit ~~responding to checking a criteria against movement of a third object having been while it is being~~ interactively placed-moved by a two-dimensional and automatically designating the first connector when the checking determines that the criteria is satisfied by interactive movement to a predetermined position in relation to the first connector after the first object, second object, and first connector have been displayed, ~~by-and in response to the automatic designating~~ automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

2. (PREVIOUSLY PRESENTED) The graphic editing apparatus according to claim 1, wherein when the first connector and the third object overlap each other, said interactive graphical editing unit automatically creates and displays the second and third connectors.

3. (PREVIOUSLY PRESENTED) The graphic editing apparatus according to claim 1, further comprising:

a judgment unit judging automatically whether a distance between the first object and the second object is sufficient to accommodate the third object between them; and
a shift unit, if the distance is not sufficient, automatically shifting at least one of the first and second objects.

4. (ORIGINAL) The graphic editing apparatus according to claim 1, further comprising a management unit managing a subordinate relationship between objects, and the management unit, if the second object is subordinated to the first object before the third object is inserted between the first object and the second object, subordinating the third object to the first object and subordinating the second object to the third object.

5. (CURRENTLY AMENDED) A graphic editing apparatus, comprising:
a display unit displaying a graph including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and

an interactive graphical editing unit, ~~when~~ with an area on the display screen that is designated interactively moved on the display by a user of said graphic editing apparatus, and during the interactive movement said editing apparatus checks a selection criteria against the movement of the area and when the checking determines that the criteria is satisfied by the designated area overlapping the first connector and overlaps a portion of the display that is separate from the graph, the first connector is interactively selected after the first object, second object, and first connector have been displayed, and in response automatically creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

6. (PREVIOUSLY PRESENTED) The graphic editing apparatus according to claim 5, wherein said interactive editing unit automatically shifts the displayed second object, displays the third object in a position where the second object was displayed before the first connector is interactively selected, and stops displaying the first connector.

7. (PREVIOUSLY PRESENTED) The graphic editing apparatus according to claim 5, further comprising a coordinate system providing unit providing a virtual coordinate system defining boxes, in which each box is defined as area for displaying one object, wherein said display unit displays each object using the virtual coordinate system, and said interactive editing unit locates each object using the virtual coordinate system.

8. (CURRENTLY AMENDED) A graphic editing apparatus, comprising:
a display unit displaying a first object, a plurality of second objects and a plurality of first connectors for connecting the first object and the plurality of second objects, where the first object, the plurality of second objects, and the plurality of first connectors are all displayed on a display screen; and
an interactive graphical editing unit responding-checking a criteria against movement of a third object while it is being interactively moved and automatically selecting to two or more of the plurality of first connectors when the checking determines that the criteria is satisfied by the third object moving into proximity to the two or more connectors, whereby the two or more connectors are having been interactively and collectively selected by a two-dimensional movement relative to the plurality of first connectors after the first object, the plurality of second objects, and the plurality of first connectors have been displayed, by and in response to the selecting
automatically creating and displaying a second connector for connecting the displayed first object and the third object, and two or more third connectors for connecting two or more of the displayed second objects connected to the interactively selected first connector and the third object.

9. (CURRENTLY AMENDED) A graphic editing method, comprising:
displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and
in response to checking a criteria against movement of a third object while it is being having been interactively placed by a two-dimensional movement and automatically designating or selecting the first connector when the checking determines that the criteria is satisfied by interactive movement to a predetermined position in relation to the first connector after the first

object, second object, and first connector have been displayed, and in response to the automatic designating or selecting automatically creating and displaying a second connector for newly connecting the displayed first object and the third object and a third connector for newly connecting the third object and the second object.

10. (CURRENTLY AMENDED) A graphic editing method:

displaying a graph including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

61 after the first object, second object, and first connector have been displayed ~~and when an area on the display screen is designated by a user of said graphic editing apparatus and the designated area overlaps the first connector and overlaps a portion of the display that is separate from the graph the first connector is interactively selected,~~ monitoring a user's interactive two-dimensional movement input to determine when during the movement the movement overlaps the first connector, and in response to the determining automatically designating or selecting the first connector as an insertion target by automatically inserting a third object by creating and displaying a second connector for connecting the first object and the third object and a third connector for connecting the third object and the second object.

11. (CURRENTLY AMENDED) A storage medium on which a program enabling a computer to execute a process is stored, the process comprising:

displaying, by a graphic editing tool, a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

after the first object, second object, and first connector have been displayed, checking a criteria against a user's interactive movement for moving a third object during the interactive movement and automatically selecting or designating the first connector when the checking determines that the criteria is satisfied by the ~~and in response to a third object having been interactively placed by a two-dimensional the movement to a predetermined position in relation to the first connector,~~ and in response inserting the third object by creating and displaying a second connector for connecting the displayed first object and the third object and a third

connector for connecting the third object and the second object.

12. (CURRENTLY AMENDED) A storage medium on which a program enabling a computer to execute a process is stored, the process comprising:

displaying a graph including a first object and a second object which are connected with each other using a first connector, where the first object, the second object, and the first connector are all displayed on a display screen; and

after the first object, second object, and first connector have been displayed and ~~when an area on the display screen is designated by a user of said graphic editing apparatus and the designated area overlaps the first connector and overlaps a portion of the display that is separate from the graph the first connector is interactively selected,~~ monitoring a user's interactive two-dimensional movement input to determine when during the movement the movement overlaps the first connector, and in response to the determining automatically treating the first connector as a selected target for insertion by automatically inserting a third object by creating and displaying a second connector for connecting the displayed first object and the third object and a third connector for connecting the displayed third object and the second object.

13. (CURRENTLY AMENDED) A method of interactively graphically inserting a node into a displayed graph comprising displayed nodes and connectors graphically connecting the nodes, said method comprising:

interactively ~~determining~~ designating a displayed first connection in the displayed graph by comparing a position of the first connection with ~~a position~~ of an object an insertion node or representation thereof while the insertion node or representation thereof is being displayed while being moved by the input device, where the displayed first connection visually connects a first displayed node and a second displayed node of the displayed graph; and

responsive to said interactive ~~determining~~ designating, automatically ~~displaying and inserting the insertion node into the displayed graph by automatically creating and displaying a second connection connecting to newly connect~~ the insertion node to the displayed first node, and by automatically ~~creating and displaying a third connection to newly connect connecting the~~ insertion node to the displayed second node.

14. (CURRENTLY AMENDED) A graphic editing apparatus, comprising:
a display unit displaying a first object, a second object, and a first connector, the objects being graphically connected with each other by the first connector; and
an editing unit, ~~responsive to checking a criteria against a movement of~~ a displayed third object being while it is being interactively located by a two-dimensional movement and automatically designating or selecting the first connector when the checking determines that the criteria is satisfied by the third object visually overlapping or contacting into a predetermined position in relation to the first connector on the display unit, and in response to the interactive ~~locating~~ automatic designating or selecting, ~~creating for displaying~~ a second connector to newly graphically ~~connecting~~ connect the displayed first object and the displayed third object, and ~~creating a displaying a~~ third connector to newly graphically connecting the third object and the second object, ~~where the second and third connectors reflect the third object being newly related to the first and second objects.~~

15. (CURRENTLY AMENDED) A method, comprising:
interacting with a graphical user interface to ~~insert a node~~ designate or select, among connectors of a displayed graph, a connector to be a target for inserting a node between existing edge-connected nodes of a the displayed graph by one of (1) dragging the node over or near a line the connector connecting the existing nodes and (2) dropping the node onto or near the line, where a checking process checks a criteria during the dragging and when the dragging satisfies the criteria the connector is designated or selected; and
~~responsive to interactively inserting the~~ designating or selecting of the node, automatically displaying new lines connectors in the graph to newly connect the existing nodes with the inserted node and automatically undisplaying the line connector connecting the existing nodes, ~~where the displaying and undisplaying reflects changes to edges of the graph caused by the interactive inserting.~~

16. (CURRENTLY AMENDED) A method, comprising:
storing a graph data structure comprising first node data, second node data, and first relationship data logically relating the first node data to the second node data;

displaying first and second graphical nodes portraying the first node data and the second node data, and displaying a first graphical line portraying the first relationship data by graphically connecting the first and second graphical nodes;

after said displaying, interactively designating ~~selecting~~ the first displayed line as a target for insertion by one of (1) checking a criteria while dragging a new node graphic and designating or selecting the first displayed line when the checking determines that the new node is over or near the first displayed line and (2) dropping the new node graphic onto or near the first displayed line, where the new node graphic has corresponding new node data; and

in response to said interactive ~~selecting~~designating: undisplaying the selected first line, adding to the graph data structure new relationship data that relates the new node data to the first node data and the second node data, displaying a new first line and a new second line portraying the new relationship data and graphically connecting the new graphical node to the first and second graphical nodes.

17. (CURRENTLY AMENDED) A method, comprising:

storing a graph data structure comprising a set of node variables and information logically interrelating the node variables;

displaying, with a graphical user interface (GUI), graphical nodes and graphical lines graphically connecting the graphical nodes, where the graphical nodes correspond to the node variables, and where the graphical lines correspond to the information logically relating the node variables;

after said displaying and storing, creating a new node variable, where the new node variable is unrelated to any other variables in the set of node variables, and where a third graphical node corresponds to the new node variable;

interacting with the GUI to select a first graphical line from among the displayed graphical lines by checking a criteria against one of dragging of the third graphical node and selecting the first graphical line when the checking determines that the third graphical node is dragged over or near the first graphical line and dropping the third graphical node onto or near the first graphical line, where the selected first graphical line graphically connects a first and second of the displayed graphical nodes, where a first node variable from the set of node variables corresponds to the displayed first graphical node, where a second node variable from the set of

variables corresponds to the displayed second graphical node, and where the displayed first graphical line represents some of the relating information that logically relates the first and second node variable; and

responsive to selecting the first graphical line, altering the logical relating information to logically unrelate the first and second node variables, causing the selected first line to be undisplayed, newly displaying the third graphical node corresponding to the new node variable, logically relating the new variable to first and second variables of the set of variables, newly displaying a first graphical line connecting the newly displayed third graphical node with the first graphical node, and newly displaying a second graphical line connecting the newly displayed third graphical node with the second graphical node.

61 18. (PREVIOUSLY PRESENTED) A method according to claim 11, wherein the interactive placement comprises interactively selecting the first connector by one of (1) dragging the new node over or near the first connector and (2) dropping the new node onto or near the first connector.

19. (CURRENTLY AMENDED) A method of inserting interactively and graphically connecting a node to a displayed graph, comprising:

displaying the graph;
dragging a graphic node to change a location of the graphic node; and
during the dragging checking a criteria against the dragging and in response to automatically when the checking determining determines that the location of the graphic node is in proximity to a connector connected to an existing node in the graph, automatically treating the connector as an insertion target designated by the dragging by displaying a new graph connector newly visually connecting the graphic node to the existing node.

20. (NEW) A graphic editing apparatus, comprising:
a display unit displaying a graphic including a first object and a second object which are connected with each other using a first connector, where the first object, second object, and first connector are all displayed on a display screen; and

81 an interactive graphical editing unit responding to a third object having been interactively placed by a two-dimensional movement to a predetermined position in relation to the first connector after the first object, second object, and first connector have been displayed, by automatically displaying a connector newly connecting the displayed first object and the third object and another connector newly connecting the displayed third object and the second object, where during the interactive two-dimensional movement the editing unit checks to determine whether the predetermined position is moved to, and when it is, the first connector is designated for insertion of the third object.
